

Cardiac Surgery

in 2000
in New Jersey

A Consumer Report



James E. McGreevey
Governor



Colleen R. Lutz, M.D.
Commissioner



Message From The Commissioner

We are pleased to present Cardiac Surgery in New Jersey, the state's fifth consumer report on coronary artery bypass graft surgery. This report summarizes the results of an analysis of mortality for patients of the New Jersey hospitals performing bypass surgery in 2000.

In facing bypass surgery, patients and their families usually have questions and concerns. We hope this guide answers some of these questions, and helps patients discuss concerns and treatment options with their physicians.

The Department has worked closely with the Cardiovascular Health Advisory Panel (CHAP) to bring consumers and providers the best possible data on cardiac surgery outcomes. This report reflects a change in methodology to capture deaths after hospital discharge. It also provides information on the total number of cardiac surgeries physicians perform, including but not limited to bypass surgeries. These changes were discussed with the CHAP, which includes physicians who specialize in cardiac medicine and surgery. I would like to thank the panel members for their ongoing efforts to support quality improvement in cardiac services in New Jersey.

Clifton R. Lacy, M.D.
Commissioner

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Introduction

This report is for patients and families of patients facing the possibility of coronary artery bypass graft (CABG) surgery. It provides mortality rates for the 15 hospitals and the physicians performing this common cardiac surgical procedure in 2000.

For this study, the Department of Health and Senior Services collected data on the 8,220 patients who had bypass surgery with no other major surgery during the same admission in 2000. This is the most recent year for which a complete, audited data set is available. All data have been “risk-adjusted,” which means that data were adjusted to take into account the patient’s health condition before surgery. This risk-adjustment allows for fair comparisons among hospitals and surgeons treating diverse patient populations.

An important goal of this analysis is to give hospitals data they can use in assessing quality of care related to bypass surgery. There is strong evidence, from the handful of states with similar reports, that this information encourages hospitals to examine their procedures and make changes that can improve quality of care and, ultimately, save lives.

In fact, New Jersey’s mortality rate for bypass surgery has shown a significant decline. For 2000, the statewide operative mortality rate following bypass surgery was 2.68 percent. This is almost 39 percent improvement since 1994, and a reduction of about 10 percent from 1999.

Readers who have followed the Department’s previous four CABG reports will notice that the mortality rates appear to have changed, and look like they have increased. This is not really the case. Instead, the Department, in consultation with the Cardiovascular Health Advisory Panel (CHAP, Appendix A lists members), changed its methodology to reduce the possibility that hospital discharge policies could artificially lower CABG mortality rates. This is discussed in greater detail below.

Another goal of the report is to give patients and physicians information to use in discussing questions and issues related to bypass surgery. Please remember that the numbers in this guide are just one factor to consider in deciding where to have cardiac surgery. You and your physician together can make the best choice after full consideration of your medical needs. Also note that data in this guide are from 2000. These data may not reflect the current performance of specific hospitals, which may have revamped their programs since then.

Heart disease and cardiac surgery in New Jersey

Heart disease is the single largest killer of Americans. About every 30 seconds, a person somewhere in this country will suffer a heart attack, and about once every minute, someone will die from one. In New Jersey, cardiovascular disease, including heart disease, is the leading cause of death.

The most common form of heart disease is coronary artery disease. It occurs when the coronary arteries, which carry blood to the heart muscle, become clogged or partially blocked by fatty deposits on the artery walls.

This can lead to chest pain, or angina, which is a warning sign for a heart attack. A heart attack occurs when a coronary artery is totally blocked.

Treatment options

Treatment for coronary artery disease will vary for different patients. The choice of treatment depends on the nature and severity of the disease and other factors unique to each patient.

For some patients, lifestyle changes such as quitting smoking, eating a low-fat diet, and getting more exercise may be enough. Some patients require special medications. Others may need medical procedures such as angioplasty or coronary artery bypass graft surgery. Angioplasty reduces obstructions of fatty deposits in coronary arteries and has become an increasingly common treatment method. Bypass surgery uses an artery or vein taken from another part of the body to divert blood around the clogged part of a patient's artery or arteries.

This report is about coronary artery bypass graft surgery. It will help you learn about the performance records of 15 hospitals in New Jersey that offered this type of surgery in 2000 and the surgeons who performed this operation at least 100 times in 2000. This report will also help you begin talking with your doctor about bypass surgery. You and your doctor should make decisions after taking all available information into account.

Performance data

In 2000 there were 8,220 isolated bypass surgeries performed in New Jersey. In an isolated bypass surgery, no other major heart procedure is performed at the same time. The number of people who died during the hospitalization in which the operation was performed even after 30 days or after discharge but within 30 days of the surgery was 220 or 2.68 percent of those who underwent the surgery.

Change in defining mortality

The Department, after discussion with the CHAP, decided to change the way mortality is currently defined for the purposes of the Department's cardiac surgery performance report. Previously, the Department defined patient death for this report as in-hospital death before discharge from hospital after isolated coronary artery bypass graft (CABG) surgery. As a result, patients who died after being discharged home or to post-acute care facilities were not counted for purposes of calculating mortality rates. However, concerns have been raised about potential "gaming" of outcomes through discharge practices.

Therefore, beginning with this report, the Department is including deaths up to thirty days post surgery or deaths occurring during the hospital stay in which the surgery was performed even after 30 days of the procedure. Deaths occurring within thirty days after surgery, but post-discharge, have been identified by matching patients in the Department's open heart data base with the state's official death records.

Using the new definition of mortality, the Department has also recalculated the statewide mortality rate for the prior years, in order to facilitate trend analysis. No hospital-specific results – i.e. a hospital scoring significantly above or below the mean - changed for prior years under the new methodology.

See Appendix B for the revised statewide mortality rates for 1994-2000.

Risk-adjusted mortality

In evaluating the performance of hospitals and individual surgeons, it would be unfair to make comparisons only on the basis of how many patients died. The mortality risk for patients undergoing bypass surgery varies significantly with how healthy patients are prior to surgery. For instance, a 75-year-old woman who has diabetes and renal failure with dialysis would be at higher risk for this surgery than a 50-year-

old non-smoking man who had no history of chronic disease.

In order to produce fair comparisons, the New Jersey Department of Health and Senior Services developed a methodology that reports **risk-adjusted mortality rates**. The risk-adjusted mortality rate gives “extra credit” to hospitals with sicker patient populations, so that those hospitals won’t be at a disadvantage in the performance comparisons.

Each hospital was required to submit data which contain a risk profile for each patient undergoing bypass surgery.

Key factors that are associated with a patient’s chance of surviving the operation include:

- ! the patient’s age;
- ! whether the patient has various diseases, such as diabetes or lung disease;
- ! whether the patient has co-morbid conditions, like renal failure, reduced ability of the heart to pump blood, congestive heart failure within 2 weeks prior to the surgery;
- ! the patient’s type of insurance coverage.

Weights were assigned for each key risk factor and calculations were performed for each hospital to produce **risk-adjusted mortality rates** as a fairer basis of comparison.

Performance reports lead to improvement

This performance report can be used not only by you and your doctors, but also by hospitals to improve the quality of their care and their patients’ outcomes. As discussed earlier, in New Jersey the statewide, risk-adjusted operative mortality rate for bypass surgery has decreased – almost 39 percent from 1994 to 2000. Evidence from other states that have published similar performance reports also shows that mortality rates have declined and the overall quality of bypass surgery care has improved substantially.

Hospitals

In 2000, 15 hospitals in New Jersey were licensed to perform coronary artery bypass graft surgery. Englewood Hospital and Medical Center was licensed in July 2000 and Atlantic City Medical Center was licensed in August 2001. These newer cardiac surgery centers will be included in future reports, when they have a full calendar year of data to report.

This booklet provides risk-adjusted mortality rates for each of the 15 hospitals. You will see that there are variations among the hospitals. Through statistical analysis, the Department is able to determine in which cases the variations reflect real differences in performance, and not different levels of risk among patients or random variation. Nevertheless, this data should not be used as the sole factor in making choices about hospitals, but should be part of the discussion between you and your doctor.

Surgeons

A risk-adjusted mortality rate was also calculated for each of the surgeons who performed at least 100 bypass operations in one hospital in 2000. Statistics for surgeons who performed fewer than 100 operations during this period are grouped under the hospital where the operations took place, in an **All Others** category. These surgeons are listed by name under the All Others Category but with no risk adjusted mortality rates because they did not perform the minimum number of procedures necessary for the Department to have confidence in the results of the analysis. For these low-volume surgeons, therefore, risk-adjusted mortality rates are not necessarily an accurate indication of their individual performance.

For previous cardiac surgery report cards, the Department has combined two years of data for surgeons in order to increase their case volume and permit reliable calculation of individual risk-adjusted mortality rates for more surgeons. That is not possible for this report, because in 2000 the Department moved to adopt the standardized data collection categories employed by the Society of Thoracic Surgeons in its national, voluntary cardiac surgery data collection efforts. The 2000 data cannot, therefore, be combined with the 1999 data. Starting with the 2001 cardiac surgery report, however, the Department will once again use two years’ worth of data to generate the surgeons’ risk-adjusted mortality rates.

Please note that, although mortality rates are not reported for low-volume surgeons, this report does

indicate the total number of open heart and CABG-only surgeries they performed, as well as the number of isolated CABG operative deaths.

Volume affects quality

Many studies nationally and in other states have shown that, in general, hospitals and surgeons that perform bypass surgery more frequently have lower patient mortality rates. New Jersey’s data confirms this general trend. However, there are always exceptions, and some hospitals and surgeons with low volumes can have good results.

Bypass surgery volume at New Jersey hospitals in 2000

The graph in Figure 1 shows how many bypass operations were performed in each of the 15 hospitals in 2000. You can see that some hospitals do more of these procedures than others, with totals ranging from a low

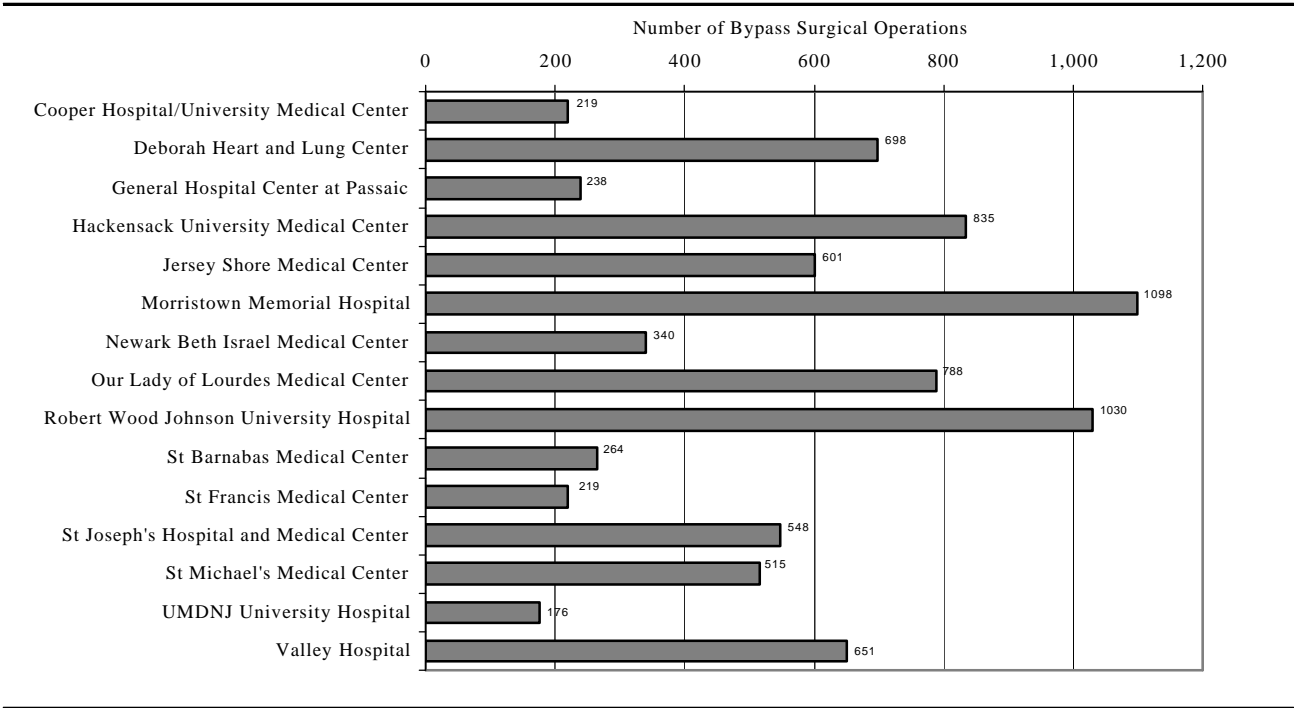
was 2.68 percent, based on data on the 8,220 patients who underwent this surgery.

Hospital risk-adjusted mortality: 2000

The graph in Figure 2 shows the risk-adjusted mortality rate of patients for each hospital in New Jersey performing bypass surgery in 2000. The risk-adjusted mortality rate takes into account both the patients’ risk factors going into surgery and the actual mortality rate of patients after the surgery.

On the graph, the vertical line represents New Jersey’s statewide mortality rate of 2.68 percent for 2000. Each hospital’s performance is displayed graphically in relation to this statewide average.

Figure 1
Number of Isolated Coronary Bypass Graft Surgeries (2000)



SOURCE: New Jersey Department of Health and Senior Services.

of 176 to a high of 1,098.

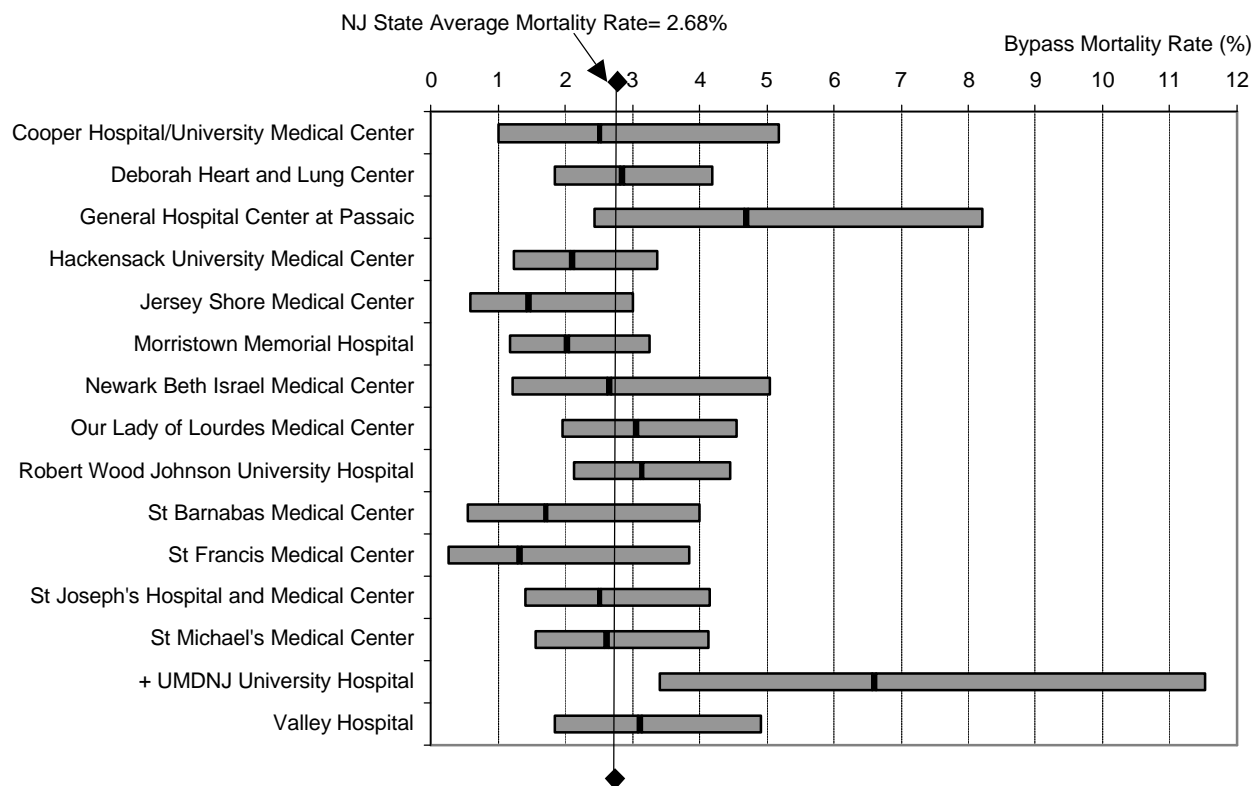
Statewide performance

In 2000, the operative mortality rate for the state

Figure 2 shows one hospital - UMDNJ University Hospital - with its bar completely to the right of the statewide average line. This means that the hospital had a mortality rate significantly above the statewide average.

The remaining 14 hospitals have bars that cross the average line. That means that their rates were not statistically different than the statewide average.

Figure 2
Hospital Risk-Adjusted Operative Mortality* Rate (2000)



SOURCE: New Jersey Department of Health and Senior Services.

*Operative Mortality includes: (1) all deaths occurring during the hospitalization in which the operation was performed, even after 30 days; and (2) those deaths occurring after discharge from the hospital, but within 30 days of the procedures.

+ - Risk-adjusted mortality rate significantly higher than the New Jersey mortality rate based on 95 percent confidence interval.

Statistical significance

In trying to determine a hospital's or surgeon's performance, it is important to account for the fact that some differences occur simply due to chance or random variation. Statistical tests are conducted on the data so that we can be as certain as possible that the differences are due to actual differences in performance. A difference is called **"statistically significant"** when it is large enough that it is not likely due to chance or random variation.

The dark line in the middle of each hospital's bar represents its calculated risk-adjusted mortality rate. However, we can't really be certain that number is the precise rate. We can only be relatively sure that the true rate falls somewhere on the bar. In analyzing data, we use what is called a "95 percent confidence interval," and the bar represents this confidence interval. We are 95 percent confident that the hospital's true risk-adjusted mortality rate falls within the range shown by the bar. Another way of saying it is that the bar represents the statistical margin of error for the calculation of that rate.

When using this report, it is important to remember that the charts are designed to show whether a hospital's or surgeon's risk-adjusted mortality rate is significantly above or below the statewide rate, or whether a rate is statistically the same as the statewide rate. Thus, it is more important to view the bars in relation to the average line than it is to examine the individual calculated rates on the bars. The chart should not be used to make hospital-to-hospital or surgeon-to-surgeon comparisons, only to compare hospitals and surgeons to the statewide rate.

In examining the charts, you will see that some bars are shorter than others. The bar is shorter for

hospitals or surgeons performing more surgeries, and longer for those with lower volumes. This reflects the fact that larger numbers -- in this case, more surgeries -- increase the precision of a statistic.

Individual surgeon performance

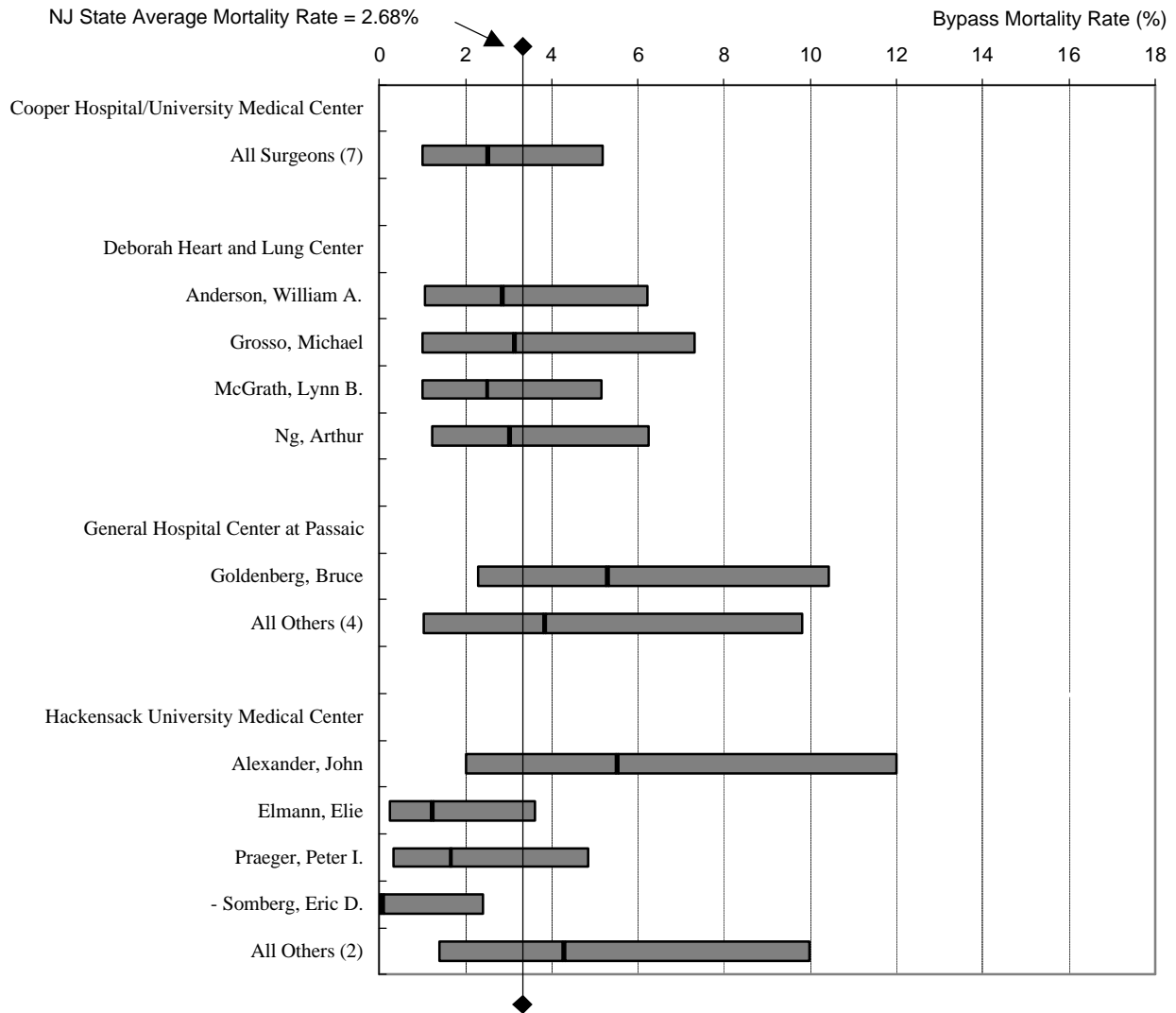
Figure 3, surgeon risk-adjusted mortality rates, 2000, shows the risk-adjusted mortality rate for each of the 38 surgeons who performed at least 100 isolated bypass surgery operations in at least one hospital in New Jersey in the year 2000.

This graph expands on the previous one, listing surgeons by name under the hospital at which they practice. Following the named surgeons, some hospitals have a category **"All Others,"** which comprises all surgeons not performing enough procedures to be included in the analysis. In addition, the hospitals' risk-adjusted mortality rates are repeated at the end of the each hospital entry.

Once again, the graph has a vertical line representing the statewide mortality rate. For 2000, one surgeon has a bar completely to the left of the statewide average line. This means that the surgeon's mortality rate was significantly lower than the statewide average. The five UMDNJ University Hospital surgeons classified as All Others have a bar completely to the right of the vertical line, meaning, as a group, they have a higher than average mortality rate. Both Table 1 and Figure 3 show the risk-adjusted mortality of surgeons. The remaining surgeons have bars that cross the vertical line, meaning their rates were not statistically different from the statewide average.

Figure 3

Surgeon Risk-Adjusted Operative Mortality* Rate (2000)



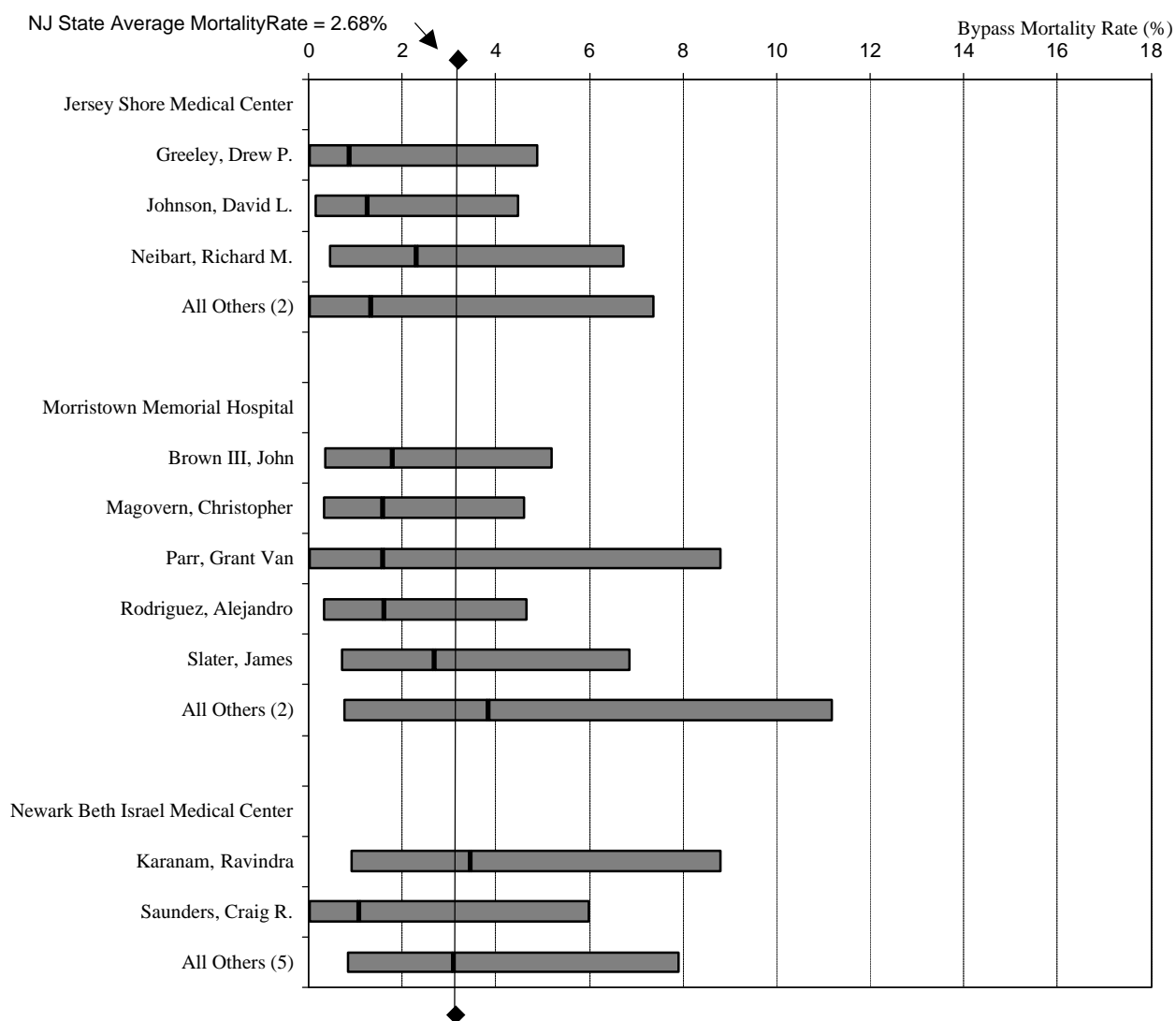
SOURCE: New Jersey Department of Health and Senior Services.

*Operative Mortality includes: (1) all deaths occurring during the hospitalization in which the operation was performed, even after 30 days; and (2) those deaths occurring after discharge from the hospital, but within 30 days of the procedures.

- Risk-adjusted mortality rate significantly lower than the New Jersey mortality rate based on 95 percent confidence interval.
- + Risk-adjusted mortality rate significantly higher than the New Jersey mortality rate based on 95 percent confidence interval.

Figure 3 (continued)

Surgeon Risk-Adjusted Operative Mortality* Rate (2000)

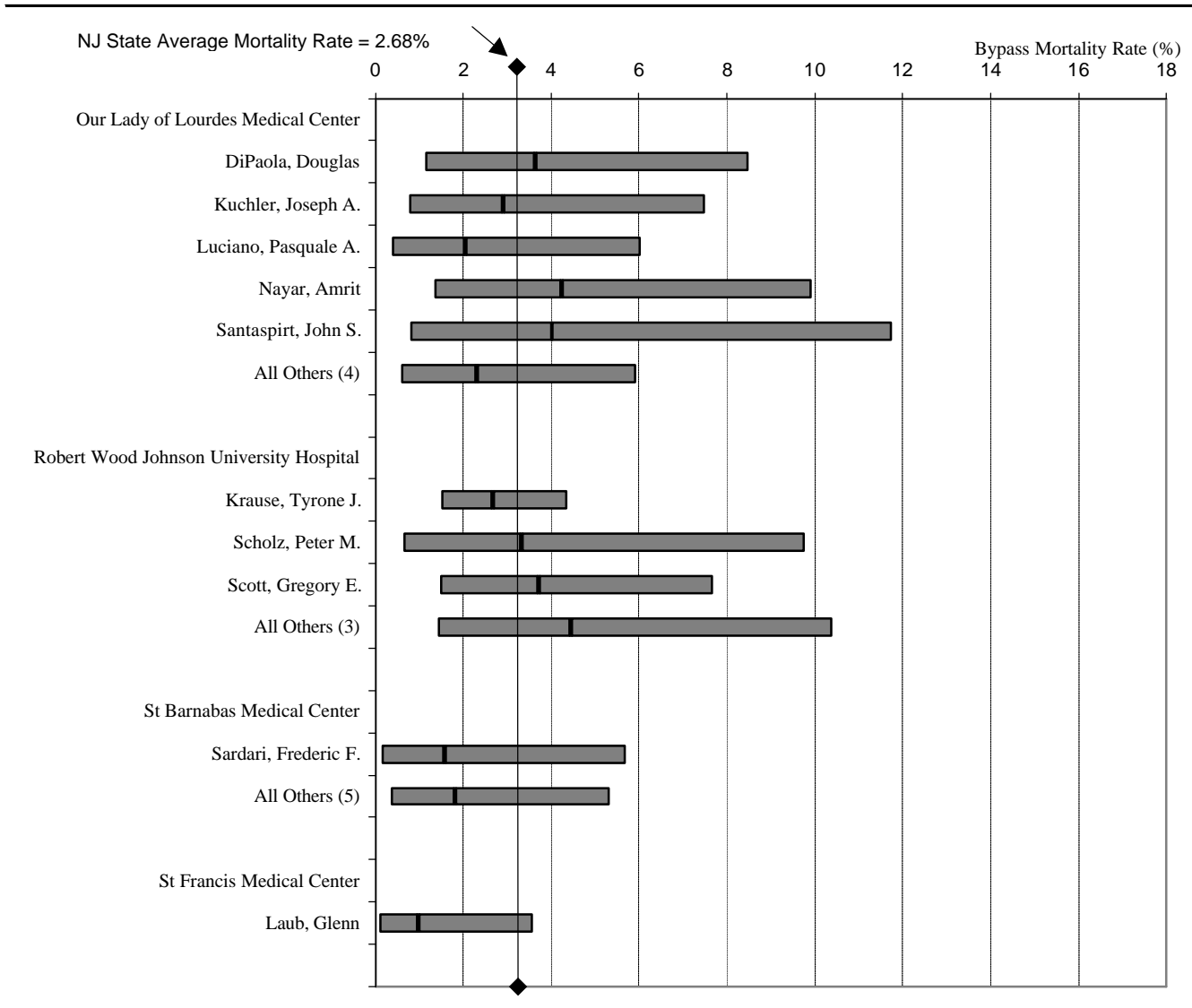


SOURCE: New Jersey Department of Health and Senior Services.

*Operative Mortality includes: (1) all deaths occurring during the hospitalization in which the operation was performed, even after 30 days; and (2) those deaths occurring after discharge from the hospital, but within 30 days of the procedures.

- Risk-adjusted mortality rate significantly lower than the New Jersey mortality rate based on 95 percent confidence interval.
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Figure 3 (continued)
Surgeon Risk-Adjusted Operative Mortality* Rate (2000)



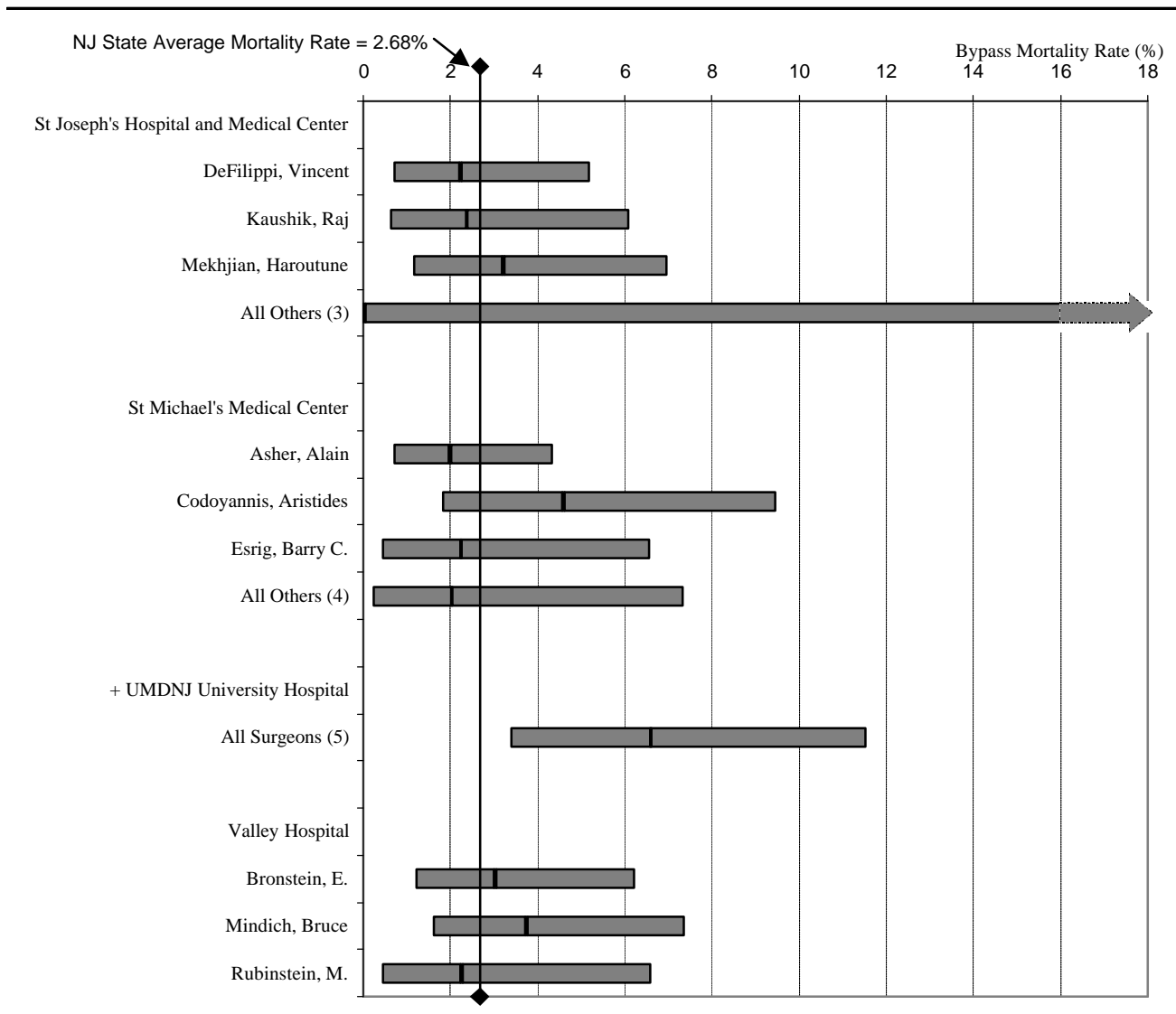
SOURCE: New Jersey Department of Health and Senior Services.

*Operative Mortality includes: (1) all deaths occurring during the hospitalization in which the operation was performed, even after 30 days; and (2) those deaths occurring after discharge from the hospital, but within 30 days of the procedures.

- Risk-adjusted mortality rate significantly lower than the New Jersey mortality rate based on 95 percent confidence interval.
- + Risk-adjusted mortality rate significantly higher than the New Jersey mortality rate based on 95 percent confidence interval.

Figure 3 (continued)

Surgeon Risk-Adjusted Operative Mortality* Rate (2000)



SOURCE: New Jersey Department of Health and Senior Services.

*Operative Mortality includes: (1) all deaths occurring during the hospitalization in which the operation was performed, even after 30 days; and (2) those deaths occurring after discharge from the hospital, but within 30 days of the procedures.

- Risk-adjusted mortality rate significantly lower than the New Jersey mortality rate based on 95 percent confidence interval.

+ Risk-adjusted mortality rate significantly higher than the New Jersey mortality rate based on 95 percent confidence interval.

➡ Confidence interval too large for scale of graph.

Table 1
Patient Risk-Adjusted Operative Mortality* Rate for Surgeons (2000)

Hospital and Surgeon	Total Open Heart Procedures	Number of Isolated CABG Operations	Patient Operative Deaths*	Observed Patient Mortality(%)	Expected Patient Mortality(%)	Risk-Adjusted Patient Mortality (%)	95% Confidence Interval
Cooper Hospital/University Medical Center							
All Others (7)	371	219	7	3.20	3.41	2.51	(1.01, 5.17)
Antinori, Charles H.	58	42	2				
Cilley, Jonathan H.	84	39	2				
DelRossi, Anthony J.	36	7	0				
Heim, John	1	1	0				
Marra, Steven W.	94	63	3				
Simonetti, Vincent A.	94	66	0				
Villanueva, Dioscoro	4	1	0				
Total	371	219	7	3.20	3.41	2.51	(1.01, 5.17)
Deborah Heart and Lung Center							
Anderson, William A.	231	151	6	3.97	3.72	2.86	(1.05, 6.23)
Grosso, Michael++	202	107	5	4.67	3.99	3.13	(1.01, 7.32)
McGrath, Lynn B.	395	260	7	2.69	2.88	2.50	(1.00, 5.16)
Ng, Arthur	286	180	7	3.89	3.44	3.03	(1.21, 6.24)
Total	1114	698	25	3.58	3.37	2.84	(1.84, 4.19)
General Hospital Center at Passaic							
Goldenberg, Bruce	191	155	8	5.16	2.61	5.29	(2.28, 10.4)
All Others (4)	110	83	4	4.82	3.36	3.83	(1.03, 9.82)
Dejene, Brook	14	9	0				
Casale, Alfred++	59	46	4				
Kaushik, Raj	36	27	0				
Schechter, Mark++	1	1	0				
Total	301	238	12	5.04	2.87	4.70	(2.42, 8.20)
Hackensack University Medical Center							
Alexander, John	209	118	6	5.08	2.47	5.51	(2.01, 12.0)
Elmann, Elie	196	146	3	2.05	4.46	1.23	(0.25, 3.61)
Praeger, Peter I.	294	227	3	1.32	2.14	1.66	(0.33, 4.84)
Somberg, Eric D.	273	207	0	0.00	2.04	0.00 LO	(0.00, 2.33)
All Others (2)	186	137	5	3.65	2.28	4.28	(1.38, 9.99)
Brenner, William++	90	61	2				
McCullough, Jock	96	76	3				
Total	1158	835	17	2.04	2.59	2.11	(1.23, 3.37)
Jersey Shore Medical Center							
Greeley, Drew P.	210	159	1	0.63	1.92	0.88	(0.01, 4.88)
Johnson, David L.	237	184	2	1.09	2.34	1.24	(0.14, 4.48)
Neibart, Richard M.	226	161	3	1.86	2.17	2.30	(0.46, 6.72)
All Others (2)	115	97	1	1.03	2.09	1.32	(0.02, 7.36)
DeJene, Brook A.	63	58	1				
Osevala, Mark A.++	52	39	0				
Total	788	601	7	1.16	2.14	1.45	(0.58, 3.00)

SOURCE: New Jersey Department of Health and Senior Services.

*Operative Mortality includes: (1) all deaths occurring during the hospitalization in which the operation was performed, even after 30 days; and (2) those deaths occurring after discharge from the hospital, but within 30 days of the procedures.

LO - The risk-adjusted patient mortality is significantly lower than the state average mortality based on 95 percent confidence interval.

HI - The risk-adjusted patient mortality is significantly higher than the state average mortality based on 95 percent confidence interval.

+ - Surgeon no longer at facility.

++ - Surgeon no longer doing surgery in New Jersey.

Table 1 (Continued)
Patient Risk-Adjusted Operative Mortality* Rate for Surgeons (2000)

Hospital and Surgeon	Total Open Heart Procedures	Number of Isolated CABG Operations	Patient Operative Deaths*	Observed Patient Mortality(%)	Expected Patient Mortality(%)	Risk-Adjusted Patient Mortality (%)	95% Confidence Interval
<i>Morristown Memorial Hospital</i>							
Brown, III, John	416	250	3	1.20	1.81	1.78	(0.36, 5.20)
Magovern, Christopher	282	228	3	1.32	2.23	1.58	(0.32, 4.61)
Parr, Grant Van	217	105	1	0.95	1.61	1.58	(0.02, 8.79)
Rodriguez, Alejandro	271	209	3	1.44	2.41	1.60	(0.32, 4.66)
Slater, James	247	214	4	1.87	1.87	2.68	(0.72, 6.86)
All Others (2)	103	92	3	3.26	2.28	3.82	(0.77, 11.2)
Banker, Michael+	102	91	3				
Goldenberg, Bruce	1	1	0				
Total	1536	1098	17	1.55	2.04	2.03	(1.18, 3.25)
<i>Newark Beth Israel Medical Center</i>							
Karanam, Ravindra	173	108	4	3.70	2.88	3.44	(0.93, 8.81)
Saunders, Craig R	163	103	1	0.97	2.42	1.07	(0.01, 5.98)
All Others (5)	235	129	4	3.10	2.69	3.09	(0.83, 7.91)
Fuzesi, Laszlo+	45	21	0				
Gielschinsky, Issac+	32	19	3				
Goldstein, Daniel J.	31	17	0				
Prendergast, Thomas	104	64	0				
Sardari, Frederic F.	23	8	1				
Total	571	340	9	2.65	2.67	2.66	(1.21, 5.04)
<i>Our Lady of Lourdes Medical Center</i>							
DiPaola, Douglas J.	174	130	5	3.85	2.83	3.63	(1.17, 8.48)
Kuchler, Joseph A.	190	134	4	2.99	2.74	2.92	(0.78, 7.46)
Luciano, Pasquale A.	146	130	3	2.31	3.00	2.06	(0.41, 6.01)
Nayar, Amrit	148	103	5	4.85	3.06	4.25	(1.37, 9.91)
Santaspirt, John S.+	156	118	3	2.54	1.69	4.02	(0.81, 11.7)
All Others (4)	229	173	4	2.31	2.68	2.31	(0.62, 5.92)
Eisen, Morris M.	99	71	3				
Heim, John	119	97	1				
Horsky, Timothy++	5	4	0				
Villanueva, Dioscoro	6	1	0				
Total	1043	788	24	3.05	2.67	3.05	(1.96, 4.54)
<i>Robert Wood Johnson University Hospital</i>							
Krause, Tyrone J.	772	575	16	2.78	2.78	2.68	(1.53, 4.35)
Scholz, Peter M.	229	111	3	2.70	2.17	3.34	(0.67, 9.75)
Scott, Gregory E.	266	212	7	3.30	2.38	3.71	(1.49, 7.65)
All Others (3)	206	132	5	3.79	2.28	4.45	(1.43, 10.4)
Anderson, Mark B.	16	15	0				
Spotnitz, Alan J.	111	70	2				
Vasseur, Bernard G.	79	47	3				
Total	1473	1030	31	3.01	2.57	3.14	(2.13, 4.45)

SOURCE: New Jersey Department of Health and Senior Services.

*Operative Mortality includes: (1) all deaths occurring during the hospitalization in which the operation was performed, even after 30 days; and (2) those deaths occurring after discharge from the hospital, but within 30 days of the procedures.

LO - The risk-adjusted patient mortality is significantly lower than the state average mortality based on 95 percent confidence interval.

HI - The risk-adjusted patient mortality is significantly higher than the state average mortality based on 95 percent confidence interval.

+ - Surgeon no longer at facility.

++ - Surgeon no longer doing surgery in New Jersey.

Table 1 (Continued)
Patient Risk-Adjusted Operative Mortality* Rate for Surgeons (2000)

Hospital and Surgeon	Total Open Heart Procedures	Number of Isolated CABG Operations	Patient Operative Deaths*	Observed Patient Mortality (%)	Expected Patient Mortality (%)	Risk-Adjusted Patient Mortality (%)	95% Confidence Interval
<i>St Barnabas Medical Center</i>							
Sardari, Frederic F.	149	121	2	1.65	2.81	1.57	(0.18, 5.68)
All Others (5)	190	143	3	2.10	3.09	1.82	(0.37, 5.31)
Fuzesi, Laszlo	2	2	0				
Goldstein, Daniel J.	3	3	0				
Karanam, Ravindra	17	14	0				
Prendergast, Thomas	78	62	1				
Saunders, Craig R.	90	62	2				
Total	339	264	5	1.89	2.96	1.71	(0.55, 3.99)
<i>St Francis Medical Center</i>							
Laub, Glenn	242	188	2	1.06	2.88	0.99	(0.11, 3.56)
Other (1)	42	31	1				
Costic, Joseph	42	31	1				
Total	284	219	3	1.37	2.79	1.31	(0.26, 3.84)
<i>St Joseph's Hospital and Medical Center</i>							
DeFilippi, Vincent	235	170	5	2.94	3.55	2.22	(0.71, 5.17)
Kaushik, Raj	192	150	4	2.67	3.01	2.37	(0.64, 6.08)
Mekhjian, Haroutun	274	204	6	2.94	2.46	3.20	(1.17, 6.96)
All Others (3)	31	24	0	0.00	1.75	0.00	(0.00, 23.4)
Levy, Dale++	8	4	0				
Saxena, Amaranth+	21	18	0				
Schechter, Mark++	2	2	0				
Total	732	548	15	2.74	2.92	2.51	(1.40, 4.14)
<i>St Michael's Medical Center</i>							
Asher, Alain	289	204	6	2.94	3.96	1.99	(0.73, 4.32)
Codoyannis, Aristides	149	117	7	5.98	3.49	4.58	(1.84, 9.44)
Esrig, Barry C.+	191	136	3	2.21	2.64	2.24	(0.45, 6.55)
All Others (4)	79	58	2	3.45	4.55	2.03	(0.23, 7.32)
Herman, Steven++	30	19	1				
Jihayel, A.+	3	2	0				
Losman Jacques+	10	8	0				
Scott, Randolph	36	29	1				
Total	708	515	18	3.50	3.57	2.62	(1.55, 4.14)
<i>UMDNJ University Hospital</i>							
All Others (5)	233	176	12	6.82	2.77	6.59 HI	(3.40, 11.52)
Casale, Alfred++	10	5	1				
Jihayel, A.+	106	76	7				
Rajaii-Khorasani, Ahmad+	110	91	4				
Hussain, S.++	4	2	0				
Perera, S.++	3	2	0				
Total	233	176	12	6.82	2.77	6.59 HI	(3.40, 11.52)
<i>Valley Hospital</i>							
Bronstein, E.	271	230	7	3.04	2.70	3.02	(1.21, 6.22)
Mindich, Bruce	489	258	8	3.10	2.22	3.74	(1.61, 7.36)
Rubinstein, M.	172	163	3	1.84	2.18	2.25	(0.45, 6.59)
Total	932	651	18	2.76	2.38	3.11	(1.84, 4.91)
State Total (2000)	11,585	8,220	220	2.68	2.68	2.68	

SOURCE: New Jersey Department of Health and Senior Services.

*Operative Mortality includes: (1) all deaths occurring during the hospitalization in which the operation was performed, even after 30 days; and (2) those deaths occurring after discharge from the hospital, but within 30 days of the procedures.

LO - The risk-adjusted patient mortality is significantly lower than the state average mortality based on 95 percent confidence interval.

HI - The risk-adjusted patient mortality is significantly higher than the state average mortality based on 95 percent confidence interval.

+ - Surgeon no longer at facility.

++ - Surgeon no longer doing surgery in New Jersey.

Questions and answers

These are some commonly asked questions that may be of interest to you as you read this booklet.

Q: Should I go only to the hospitals with below-average risk-adjusted mortality rates?

A: Not necessarily. There are many factors to consider in determining the best hospital for you. Among these are your own personal risk factors and the experience certain hospitals have treating patients with those risk factors. Before making up your mind, you should discuss this report with the physician, usually a cardiologist, who refers you for cardiac surgery. The cardiologist's knowledge and expertise will be a valuable guide in making your decision. You should also keep in mind that the data in this guide is from 2000 and that a hospital's performance may have changed since then.

Q: Should I avoid any surgeon whose volume is low in this report?

A: No, not necessarily. First, there are lower volume surgeons with good patient outcomes. Second, there may be a good explanation for why a surgeon had a low volume that is unrelated to his/her experience. For example, the surgeon may have recently moved from another state, where he/she performed a high volume of these procedures. It is best to discuss your concerns with your referring doctor.

Q: Should I refuse to go to a hospital for heart surgery if that hospital has a worse than average mortality record?

A: Important decisions in areas such as cardiac surgery should be made after considering all available information. The statistics in this report are a starting point for discussions with your doctor. But they do not tell the complete story. That is why it is critical to bring your concerns and questions to your doctor.

Q: Is it better to go to a hospital with a high volume of cases?

A: National studies have demonstrated that, in general, hospitals with higher volumes have better results. However, some hospitals with high volumes have relatively high mortality rates, while others with low volumes have lower mortality rates.

Notes on data:

The data used in this study were reported by hospitals according to criteria established by the Department, with assistance from the clinical experts. The data were audited by an independent reviewer under contract to the Department.

Throughout the process of developing this report, the Department has taken steps to make sure that all hospitals were informed about data reporting and auditing requirements, as well as the statistical methods being used to risk-adjust the reported mortality data.

The Department considers it a vital function of hospitals to be able to collect and report complete, accurate medical information on patients. This function is critical not only to the success of the cardiac surgery report, but to the hospitals' own ongoing efforts to improve the quality of care for all patients. The Department and hospitals will continue working to improve data collection procedures so that this report contains the best possible information.

To obtain a copy of this guide, please contact the New Jersey Department of Health and Senior Services, Office of Research and Development, PO Box 360, Trenton, NJ 08625, (888) 393-1062, fax (609) 292-6523. The guide is also available on the Department's web site at www.state.nj.us/health.

Appendix A

New Jersey's Cardiovascular Health Advisory Panel (CHAP)

Charles Dennis, MD, FACC - Chairman of the CHAP

Chairman, Department of Cardiovascular Diseases

Deborah Heart and Lung Center

Devendra K. Amin, MD, FACP, FCCP
Medical Director
Warren Hospital Cardiac Catheterization Lab

Fred Auerson, MD, FACC, FSCAI
The Heart Group, PA
Millburn, New Jersey

Anthony J. DelRossi, MD
Head, Division of Cardiothoracic Surgery
Cooper Hospital/University Medical Center

Barry C. Esrig, MD, FACS, FACC, FCCP
Chief, Division of Cardiothoracic Surgery
University of Medicine and Dentistry NJ
University Hospital

Brian G. Firth, MD, PhD, FACC
Vice President, Medical Affairs and Health
Economics Worldwide
Cordis Corporation

Veronica F. Gilligan, MS, SPHR,
HR Consultant

Mary Jo Goodman, RN, MBA
Director, Cardiac and Critical Care Services
Somerset Medical Center

David V. Habif, Jr., MD
Vice Chairman, HCAB
Tenafly, New Jersey

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Garden State Cardiology
Paramus, New Jersey

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Director of Cardiac Rehabilitation
Hunterdon Medical Center
Flemington, New Jersey

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Chairman, Dept. of Cardiothoracic Surgery
St. Francis Medical Center

Donald Liss, MD
Senior Medical Director
Aetna

Grant V. S. Parr, MD, FACS, FACC, FCCP
Chairman of Cardiovascular Surgery
Atlantic Health Systems

Milton Prystowsky, MD, FAAP, FACC
Public Health Council Member
Nutley, New Jersey

Vincent Spagnuolo, Jr., MD, FACC
Larchmont Medical Center
Mt. Laurel, New Jersey

William Tansey, III, MD, FACC, FACP
Summit Medical Group, PA
Short Hills, New Jersey

Barbara J. Taptich, RN, MA
Project Leader, Learning & Development
Johnson & Johnson Health Care Systems

Edward Tetelman, Esq.
Acting Public Guardian
Department of Health and Senior Services

Rita Watson, MD, FACC
Monmouth Cardiology Associates
Long Branch, New Jersey

APPENDIX B

Statewide Observed Mortality Rate

Year	In Hospital Death	Operative Mortality*
1994-1995	3.75	4.14
1996-1997	3.37	3.75
1998	2.60	3.01
1999	2.89	3.31
2000	2.22	2.68

* Operative mortality includes:

- all deaths occurring during the hospitalization in which the operation was performed, even after 30 days
- deaths occurring after discharge from hospital, but within 30 days of the procedure